CENTRAL INTELLIGENCE AGENCY WASHINGTON, D.C. 20505

SECRET

NRO REVIEW COMPLETED

8693-69 **25X1**Copy /(_of/(_-

| | MEMORANDUM FOR: | Director, National Reconnaissance Office Methane Fuel Tests | |
|-------------|-----------------|---|------|
| 25X1 | REFERENCES: | A. Memorandum for Director, National Reconnaissance Office from Director, CIA Reconnaissance Programs | 25X1 |
| 25X1 | | (R&D/OSA) with Mr. Jones (Deputy Assistant Secretary of the Air Force for R&D) of | 25X1 |
| NRO 25X1 | | 2 | 25X1 |
| | | SECRET | |

SECRET

| rage 2 | |
|---|-----|
| 2. As suggested in paragraph 4, reference B, this subject has been reviewed with Mr. Joe Jones (Deputy Assistant Secretary of the Air Force, R&D). Mr. Jones indicated that this approach was in line with the National effort on the subject, and should be pursued. | |
| 3. A description of this proposed Phase III effort and its interface with the development and test of a complete methanc fuel system is included in Attachments I and II. | NRO |

CARL E. DUCKETT Director, CIA Reconnaissance Programs

Attachments:

2 - As stated above

25X1

8002 sa 25X1

| SECRET | |
|---|-------------------|
| | 8693-69 Page 3 |
| SIGNATURE RECOMMENDED: | |
| Director of Special Activities | 13 |
| BFD/COMPT/OSA (11 Feb 69) Distribution: | |
| 1&2 - D/NRO 3 - D/CIA/RP Chrono 4 - SA/DCI 5 - Compt/DD/S&T 6 - DDS&T Registry 7 - DDS&T Registry 8 - D/SA | · · |
| 9 - Compt/OSA 10 - BFD/OSA 11 - R&D/OSA 12 - D/M/CSA 13 - OPS/OSA 14 - CMD/OSA 15 - BFD/OSA | |

25X1

SECRET

SECKET

| COORDINA'TION: | |
|--------------------------------|--------------------|
| | |
| | |
| Comptroller, OSA | Deputy Directo |
| , o.m.p 02 0 = = = - 3 0 = = = | 1 0 |

25X1

SECRET

| | | NRO |
|--------------|----|------|
| Attachment I | to | 25X1 |
| 8693-69 | | |

NRO 25X1

GROUND TEST OPERATION OF A SMALL JET ENGINE

ON LIQUIFIED METHANE FUEL

The methane fuel engine demonstration program was previously proposed in FY 68 with initial effort to commence in that year. At the time the FY 68 program was proposed, a complete engine demonstration program was also formulated. This total effort was divided into a four phase program as follows.

| PHASE | PROPOSED EFFORT | COST |
|-------|--|----------|
| I | Component Design & Analysis | |
| II. | Basic Component Integration & Demonstration | |
| III | JT12 (J60) Engine Demonstra- tion with Breadboard Fuel Vaporizer | |
| IV | JT12 Engine Demonstration with Integral Engine Vaporizer | <u>.</u> |

A brief demonstration effort covering Tasks I and II has already been completed by Pratt & Whitney (FRDC) under their approved FY 68 independent Research and Development Program. No plans or funding now exist for conducting the Phase III effort. The only related area in the approved FY 69 IR&D Program at Pratt & Whitney involves efforts to "push" JP type fuels to higher speed applications, i.e., beyond Mach number 3.5.

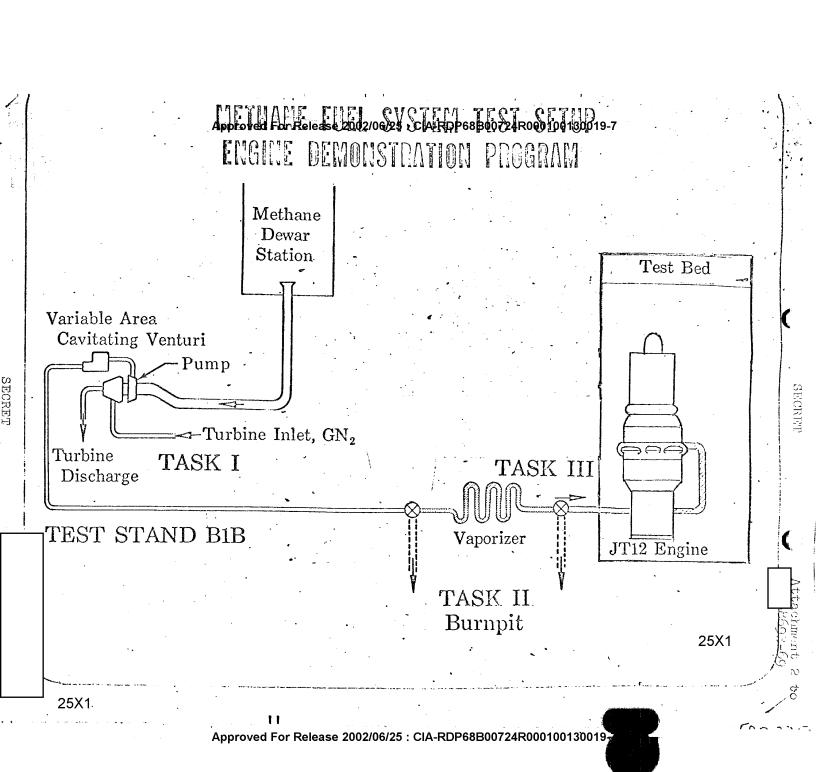
NRO

25X1

The Phase III effort for will involve the operation of a JT12 engine with an open loop fuel system using components similar to those designed and tested under Phases I and II. These components consist of a fuel pump, variable area cavitating venturi, and a breadboard fuel vaporizer. A schematic of this engine demonstration system is shown in the attached diagram. This program should require approximately one year to complete.

SECRET

Approved For Release 2002/06/25 : CIA-RDP68B0d724R000100130019-7



| SUBJECT: (Optional) Methane Fue: FROM: BFD/COMPT/OSA | l Tests | | |
|--|-------------------|--------------|--|
| FROM: | l Tests | | |
| | | | |
| BFD/COMPT/OSA | | EXTENSION | NO. 8693-69 |
| | | | DATE 11 FEB 69 |
| TO: (Officer designation, room number, and | DATE | OFFICER'S | COMMENTS (Number each comment to show from who |
| building) | RECEIVED FORWARDE | INITIALS | to whom. Draw a line across column after each commen |
| 1. BFD/OSA | | | |
| (Release) | | | |
| 2.COMPT/OSA | 12, | | |
| (Coordination) | 12 16 | _ | |
| 3. R&D/OSA | 2/17/ | , | |
| (Coordination) | 1790 | 7 | |
| 4. DD/OSA (Coordination) | | | |
| 5. | | - | |
| EOSA | 9/12/100 | , | |
| 6. D/SA | 1/4/4/ | 1 | |
| (Signature Recommd) | | | |
| 7. | | 1 | |
| 8. Compt/OSA | | - | |
| (Zerox) | 2/12/16 | | |
| 9. | 7/3/4 | | |
| | | | Τ |
| 10. RB/OSA | | | |
| (Carry to DDS&T) | | | |
| 11. | | | |
| • | | | |
| 12. | | | |
| 13. | | - | 1 |
| | | | |
| 14. | | † | |
| | | | |
| 15. | | | |

25X1 25X1

NRO